SONY

AC ADAPTOR

AC-550CE

MAINTENANCE MANUAL
1st Edition
Serial No. 45451 and Higher

⚠警告

このマニュアルは，サービス専用です。
お客様が，このマニュアルに記載された設置や保守，点検，修理などを行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

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Manual Structure

Purpose of this manual

This manual is the maintenance manual for AC Adaptor AC-550CE.
This manual describes the information items on maintenance, and items that premise the service based on the components parts such as alignment, schematic diagram, board layout and spare parts list, assuming use of service engineers.

Related manual

Besides this maintenance manual, the following manual is available for this unit.

- **Operation Manual (Supplied with this unit)**
  This manual is necessary for application and operation of this unit.

Contents

The following are summaries of the each section for understanding the manual.

Section 1 Service Overview

Describes information about connector input/output signals and Notes on Service.

Section 2 Electrical Alignment

Describes electrical adjustment.

Section 3 Spare Parts

Describes parts list, exploded view, and supplied accessories used in the unit.

Section 4 Semiconductor Pin Assignments

Describes function diagrams and pin names of semiconductor used in the unit.

Section 5 Diagram and Board Layout

Describes schematic diagram and board layout.

Section 1
Service Overview

1-1. Connectors and Cable

1-1-1. Connecting Connectors/Cables

To connect cables to each connector of the connector block for installing or servicing, use the following the connectors, cables or equivalent.

Connector	Connector/Cable
VIDEO OUT EXT VBS (BNC)	1-569-370-12 PLUG, BNC
CAMERA (26-pin, female)	1-564-183-00 PLUG, 26-pin male or CCZ cable assembly (accessory) CCZ-10 (10 m)
DC OUT (4-pin, female)	CCDD-X2 (2 m, supplied with the unit)
MIC OUT (3-pin, male)	1-508-083-00 XLR, 3-pin female or Cannon XLR-3-11C or equivalent

1-1-2. Connectors Input/Output Signal

AC IN

110 to 120 V / 220 to 240 V AC 10% selectable

VIDEO OUT

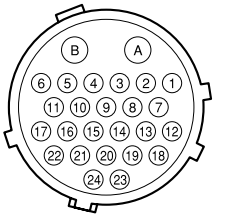
BNC type, 75 Ω

EXT VBS

BNC type, 75 Ω

Voltage selector

CAMERA (26-pin, Female)

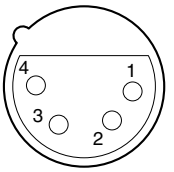


– EXT VIEW –

(0 dBu = 0.775 Vrms)

No.	Signal	Specifications
1	VIDEO IN (X)	1.0 V p-p, Zi = 75 Ω
2	VIDEO IN (GND)	1.0 V p-p, Zi = 75 Ω
3	NC	No connection
4	NC	No connection
5	NC	No connection
6	NC	No connection
7	NC	No connection
8	NC	No connection
9	MIC IN (X)	–60 dBu High impedance balanced
10	MIC IN (Y)	–60 dBu High impedance balanced
11	MIC IN (GND)	–60 dBu High impedance balanced
12	NC	No connection
13	NC	No connection
14	NC	No connection
15	NC	No connection
16	NC	No connection
17	FRAME GND	
18	EXT VBS OUT (X)	1.0 V p-p, Zo = 75 Ω
19	EXT VBS OUT (GND)	1.0 V p-p, Zo = 75 Ω
20	NC	No connection
21	NC	No connection
22	NC	No connection
23	NC	No connection
24	NC	No connection
A	DC OUT (+13.5 V)	+13.2 V to +13.8 V, 7 A
B	DC OUT (GND)	

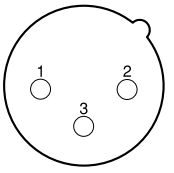
DC OUT (4-pin, Female)



– EXT VIEW –

No.	Signal	Specifications
1	GND	GND for UNREG
2	NC	No connection
3	NC	No connection
4	DC OUT	+13.2 V to +13.8 V, 7 A

MIC OUT (3-pin, Male)



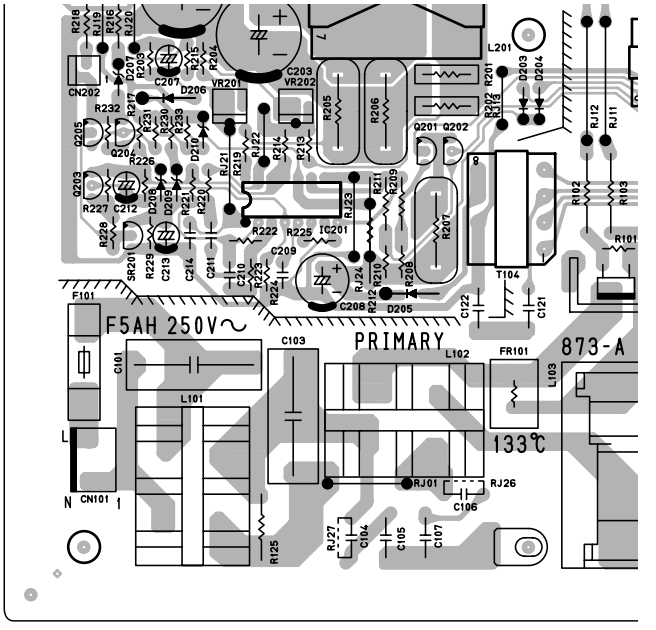
– EXT VIEW –

No.	Signal	Specifications
1	MIC OUT	–60 dBu High impedance balanced
2	MIC OUT	
3	MIC OUT	

1-2. Notes on Service

1-2-1. Note on Maintenance

High voltage exists on the primary side of the mounted circuit board when the unit is energized. Take utmost care when checking and repairing and do not touch the primary side with bare hand or tools.



1-2-2. Notes on Repair Parts

1. Safety Related Components Warning

WARNING

Components marked ⚠ are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

2. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.

Parts list has the present standardized repair parts.

3. Stock of Parts

Parts marked with “o” at SP (Supply Code) column of the spare parts list may not be stocked. Therefore, the delivery date will be delayed.

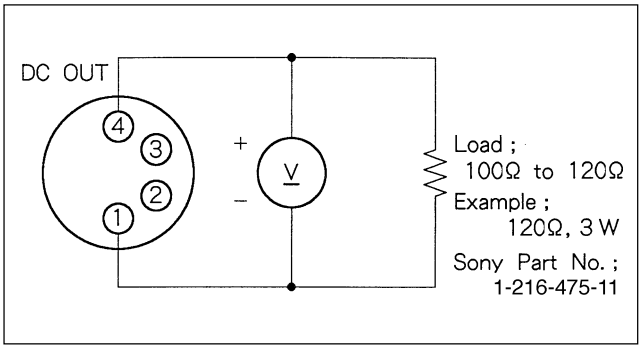
Section 2
Electrical Alignment

2-1. Output Voltage Adjustment

Equipment : DC voltmeter

Preparation

1. Turn OFF the power of the AC-550CE.
2. Connect the DC OUT connector of AC-550CE as shown in the figure below.



3. Turn ON the power of the AC-550CE.

Adjustment

Adjust ⊘VR201/A board so that the DC voltmeter reading becomes +13.5 $^{+0.2}_{-0}$ V dc.

2-2. Excess Current Detection and Adjustment

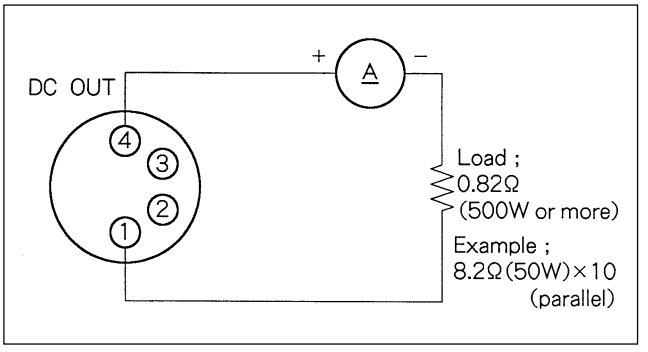
Note

Only when part has been replaced, perform adjustment.

Equipment : DC ammeter

Preparation

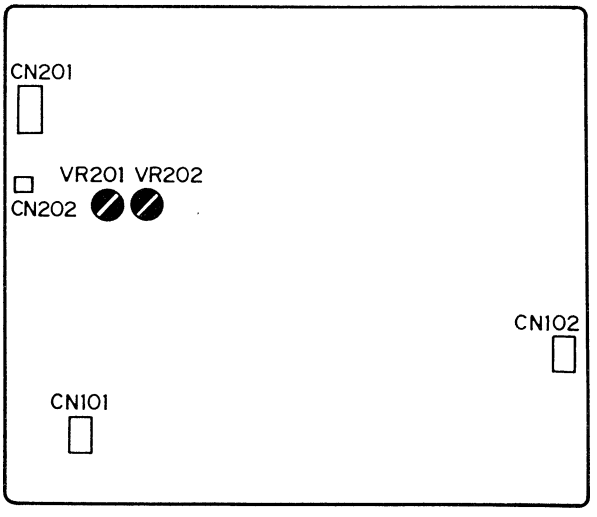
1. Turn OFF the power of the AC-550CE.
2. Connect the DC OUT connectors of the AC-550CE as shown in the figure below.



3. Turn ⊘VR202/A board fully counterclockwise ↺.
4. Turn ON the power of the AC-550CE.

Adjustment

Slowly turn ⊘VR202/A board clockwise ↻ so that the load current becomes 15.0 ±0.5 A.



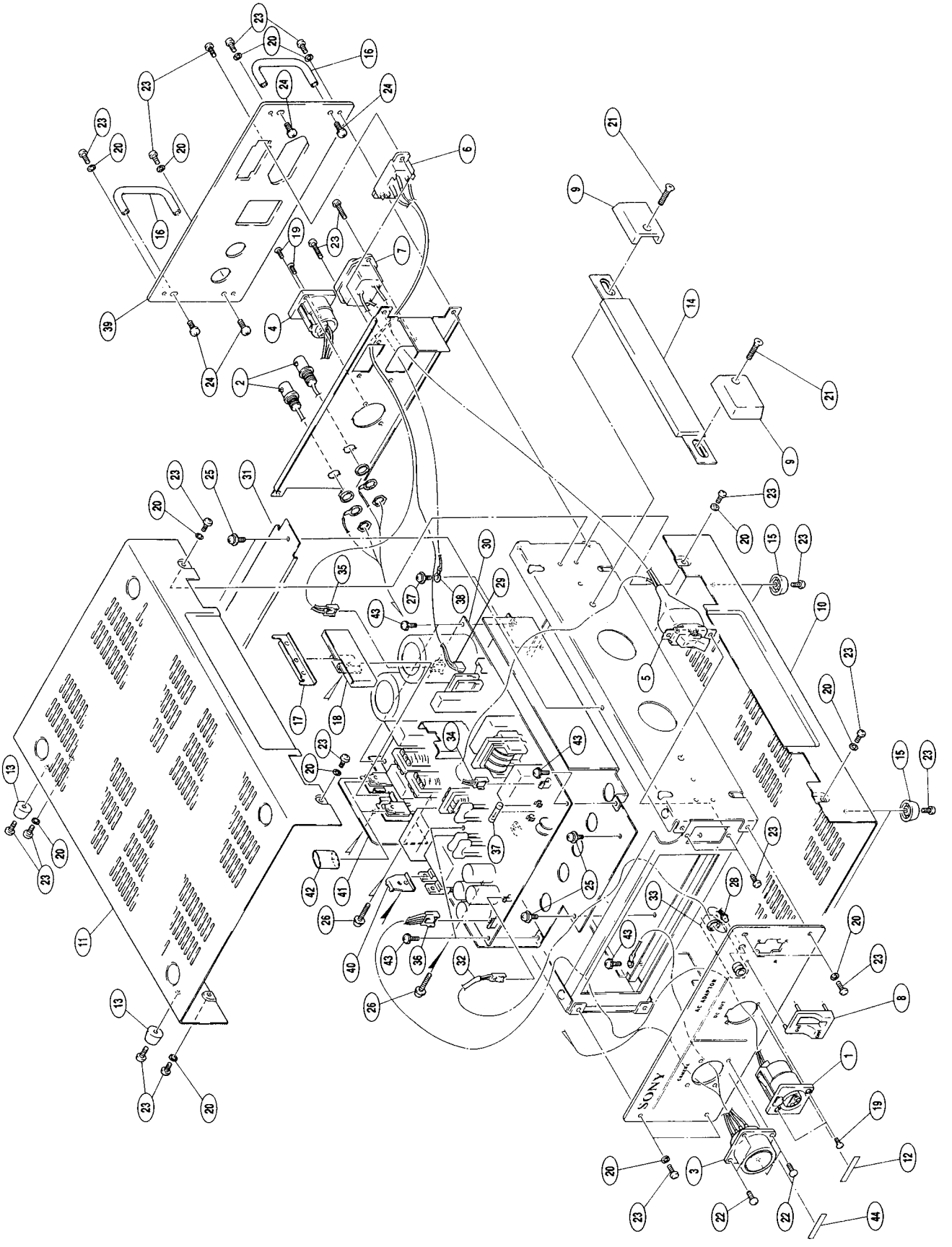
A board (component side)

Section 3
Spare Parts

3-1. Exploded View

OVERALL BLOCK

No.	Part No.	SP	Description
1	1-509-185-31	s	CONNECTOR, 4P FEMALE "DC OUT"
2	1-561-781-91	s	CONNECTOR, BNC "VIDEO OUT" "EXT VBS"
3	1-562-245-11	o	CONNECTOR, 26P FEMALE "CAMERA OUT"
4	1-563-030-21	s	CONNECTOR, 3P MALE "MIC OUT"
5 ⚠	1-570-117-11	s	SWITCH, POWER "POWER ON/OFF"
6 ⚠	1-570-173-21	s	SWITCH, VOLTAGE SELECTOR
7 ⚠	1-580-375-21	o	INLET, AC "AC IN"
8	4-604-107-11	s	GUARD, POWER SWITCH
9	2-253-306-21	o	TABLE, HANDLE
10	2-253-312-21	o	COVER
11	2-253-312-31	o	COVER
12	2-253-330-01	o	LABEL, POLARITY (4P)
13	3-143-272-02	s	FOOT, RUBBER
14	3-419-372-01	s	HANDLE
15	3-644-003-00	s	FOOT, LOWER
16	3-648-409-00	o	HANDLE (1)
17	4-886-820-01	o	RETAINER
18 ⚠	4-886-830-02	o	RETAINER, TRANSISTOR
19	7-621-561-19	s	SCREW +K2.6X6
20	7-623-308-07	s	WASHER, LW3
21	7-682-265-09	s	SCREW +K4X16
22	7-682-548-04	s	SCREW +B3X8
23	7-682-548-09	s	SCREW +B3X8
24	7-682-661-01	s	SCREW +PS4X8
25	7-682-948-01	s	SCREW +PSW3X8
26	7-682-951-01	s	SCREW +PSW3X14
27	7-682-661-09	s	SCREW +PS4X8
28	8-719-800-58	s	LED TLG147 ; GREEN
29	9-885-008-02	o	HARNESS, CN5
30	9-903-699-01	o	MOUNTED CIRCUIT BOARD, A
31	9-903-758-01	o	PLATE REINFORCEMENT
32	9-903-760-01	o	HARNESS, CN3
33	9-903-762-01	s	HOLDER, LED
34	9-903-763-01	o	HARNESS, CN1
35	9-903-764-01	o	HARNESS, CN2
36	9-903-765-01	o	HARNESS, CN4
37 ⚠	9-903-748-01	s	FUSE 5A 250V
38	9-903-769-01	o	WIRE, GROUND
39	9-903-771-01	o	PANEL, REAR
40	9-903-775-01	o	BRACKET, B
41 ⚠	9-903-776-01	o	SHEET, RADIATION
42 ⚠	9-903-777-01	o	TUBE, RADIATION
43	9-903-779-01	s	SCREW +PSW3X8
44	9-903-783-01	s	LABEL, POLARITY (26P)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3-2. Electrical Parts List

A BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	⚠ 9-903-699-01	o	MOUNTED CIRCUIT BOARD, A
2pcs	7-682-949-01	s	SCREW +PSW3X10
1pc	9-903-750-01	o	PLATE, SHIELD
1pc	9-903-751-01	o	HEAT SINK
2pcs	9-997-769-01	s	HOLDER, FUSE
C101	⚠ 9-885-008-05	s	FILM 0.47uF 275V
C103	⚠ 9-885-008-05	s	FILM 0.47uF 275V
C104	⚠ 9-903-703-01	s	CERAMIC 4700P
C105	⚠ 9-903-703-01	s	CERAMIC 4700P
C106	⚠ 9-903-703-01	s	CERAMIC 4700P
C107	⚠ 9-903-703-01	s	CERAMIC 4700P
C108	9-885-008-06	s	ELECT 820uF 250V
C109	9-885-008-06	s	ELECT 820uF 250V
C110	9-903-702-01	s	FILM 1.5uF 250V
C111	9-885-008-03	s	CERAMIC 0.022uF 50V
C112	9-885-008-03	s	CERAMIC 0.022uF 50V
C113	9-903-704-01	s	CERAMIC 2200P 1KV
C114	9-903-704-01	s	CERAMIC 2200P 1KV
C115	9-939-840-01	s	ELECT 10uF 50V
C116	1-136-196-11	s	FILM 0.033uF 400V
C117	1-162-896-11	s	CERAMIC 0.1uF 50V
C118	9-939-839-01	s	ELECT 47uF 16V
C119	9-939-839-01	s	ELECT 47uF 16V
C120	1-136-203-11	s	FILM 0.01uF 630V
C121	⚠ 9-903-708-01	s	CERAMIC 2200P
C122	⚠ 9-903-708-01	s	CERAMIC 2200P
C201	9-997-680-01	s	CERAMIC 1000P 1KV
C202	9-997-680-01	s	CERAMIC 1000P 1KV
C203	9-939-842-01	s	ELECT 2700uF 16V
C204	9-939-842-01	s	ELECT 2700uF 16V
C205	9-939-842-01	s	ELECT 2700uF 16V
C206	9-939-842-01	s	ELECT 2700uF 16V
C207	9-939-841-01	s	ELECT 0.47uF 50V
C208	9-939-843-01	s	ELECT 220uF 35V
C209	9-885-008-04	s	CERAMIC 0.0047uF 50V
C210	9-885-008-04	s	CERAMIC 0.0047uF 50V
C211	1-162-896-11	s	CERAMIC 0.1uF 50V
C212	9-939-840-01	s	ELECT 10uF 50V
C213	9-939-841-01	s	ELECT 0.47uF 50V
C214	1-162-879-11	s	CERAMIC 100P 50V
CN101	⚠ 9-903-743-01	o	CONNECTOR 2P, MALE
CN102	⚠ 9-903-743-01	o	CONNECTOR 2P, MALE
CN103	⚠ 9-903-743-01	o	CONNECTOR 2P, MALE
CN201	9-903-744-01	o	CONNECTOR 4P, MALE
CN202	9-903-745-01	o	CONNECTOR 2P, MALE
D101	9-903-713-01	s	DIODE D5SB60-4001
D102	9-903-713-01	s	DIODE D5SB60-4001
D103	9-903-710-01	s	DIODE ERC38-05E4
D104	8-719-031-10	s	DIODE ERB91-02V3R
D105	8-719-031-10	s	DIODE ERB91-02V3R
D106	9-903-711-01	s	DIODE ERA38-05V3R
D107	9-903-710-01	s	DIODE ERC38-05E4
D108	8-719-031-10	s	DIODE ERB91-02V3R
D109	8-719-031-10	s	DIODE ERB91-02V3R
D110	9-903-711-01	s	DIODE ERA38-05V3R

(A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D111	9-903-712-01	s	DIODE UF4007G23
D112	8-719-110-03	s	DIODE RD7.5ESB2
D113	8-719-031-11	s	DIODE ERA91-02V3R
D114	8-719-031-11	s	DIODE ERA91-02V3R
D115	9-903-715-01	s	DIODE ERC91-02AXE5
D116	9-903-715-01	s	DIODE ERC91-02AXE5
D201	9-903-714-01	s	DIODE YG902C2
D202	9-903-714-01	s	DIODE YG902C2
D203	8-719-031-11	s	DIODE ERA91-02V3R
D204	8-719-031-11	s	DIODE ERA91-02V3R
D205	8-719-031-10	s	DIODE ERB91-02V3R
D206	8-719-031-10	s	DIODE ERB91-02V3R
D207	8-719-110-03	s	DIODE RD7.5ESB2
D208	8-719-110-48	s	DIODE RD18ESB1
D209	8-719-110-53	s	DIODE RD20ESB2
D210	8-719-109-93	s	DIODE RD6.2ESB2
F101	⚠ 9-903-748-01	s	FUSE 5A 250V
FR101	⚠ 9-903-716-01	s	RES, FUSIBLE 15uF 7W 133°C
IC201	8-759-937-59	s	IC MB3759
L101	⚠ 9-903-717-01	s	INDUCTOR 8.2mH
L102	⚠ 9-903-719-01	s	INDUCTOR
L103	9-885-008-00	s	INDUCTOR, CHOKE
L201	9-903-721-01	s	INDUCTOR, CHOKE
L202	9-903-720-01	s	INDUCTOR, DRUM
Q101	9-903-722-01	s	TRANSISTOR 2SC3320
Q102	9-903-722-01	s	TRANSISTOR 2SC3320
Q103	9-903-723-01	s	TRANSISTOR 2SC3866-F65
Q104	8-729-119-78	s	TRANSISTOR 2SC2785
Q201	8-729-374-02	s	TRANSISTOR 2SB740-3
Q202	8-729-374-02	s	TRANSISTOR 2SB740-3
Q203	8-729-173-38	s	TRANSISTOR 2SA733
Q204	8-729-119-78	s	TRANSISTOR 2SC2785
Q205	8-729-119-78	s	TRANSISTOR 2SC2785
R101	9-997-700-01	s	CARBON 1K 1/6W
R102	1-215-861-00	s	METAL 47 5% 1W
R103	1-215-861-00	s	METAL 47 5% 1W
R104	1-215-903-11	s	METAL 68K 5% 2W
R105	1-215-903-11	s	METAL 68K 5% 2W
R106	1-216-369-00	s	METAL 1.0 5% 2W
R107	9-903-731-01	s	CARBON 10 1/2W
R108	9-903-731-01	s	CARBON 10 1/2W
R109	1-216-369-00	s	METAL 1.0 5% 2W
R110	9-903-731-01	s	CARBON 10 1/2W
R111	9-903-731-01	s	CARBON 10 1/2W
R112	9-903-737-01	s	WIREWOUND 47 5W
R113	⚠ 9-903-728-01	s	RES, FUSIBLE 15 1/4W
R114	9-903-732-01	s	CARBON 180K 1/2W
R115	9-903-732-01	s	CARBON 180K 1/2W
R116	9-997-708-01	s	CARBON 33K 1/6W
R117	9-903-724-01	s	FILM 150K 3W
R118	9-903-733-01	s	CARBON 220 1/2W
R119	9-997-703-01	s	CARBON 1.5K 1/6W
R120	9-903-734-01	s	CARBON 33 1/2W

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(A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R121	9-997-706-01	s	CARBON 330 1/6W
R122	9-997-700-01	s	CARBON 1K 1/6W
R123	9-997-700-01	s	CARBON 1K 1/6W
R124 ⚠	9-997-756-01	s	RES, FUSIBLE 10 1/4W
R125	9-885-008-01	s	CARBON 470K 1/2W
R201	1-217-654-11	s	WIREWOUND 0.02 10% 5W
R202	1-217-654-11	s	WIREWOUND 0.02 10% 5W
R203	9-997-707-01	s	CARBON 3.3K 1/6W
R204	9-997-703-01	s	CARBON 1.5K 1/6W
R205	9-903-725-01	s	METAL 180 5W
R206	9-903-725-01	s	METAL 180 5W
R207	9-903-736-01	s	METAL 4.7 5W
R208	9-997-706-01	s	CARBON 330 1/6W
R209	9-997-697-01	s	CARBON 470 1/4W
R210	9-997-706-01	s	CARBON 330 1/6W
R211	9-997-697-01	s	CARBON 470 1/4W
R212	1-215-889-00	s	METAL 330 5% 2W
R213 ⚠	9-903-729-01	s	RES, FUSIBLE 47 1/6W
R214	9-903-727-01	s	CARBON 4.7K 1/6W
R215	9-997-704-01	s	CARBON 2.2K 1/6W
R216	9-903-730-01	s	CARBON 680 1/4W
R217	9-997-706-01	s	CARBON 330 1/6W
R218	9-903-735-01	s	CARBON 2.2K 1/4W
R219 ⚠	9-903-729-01	s	RES, FUSIBLE 47 1/6W
R220	9-997-699-01	s	CARBON 100 1/6W
R221	9-997-703-01	s	CARBON 1.5K 1/6W
R222	9-997-702-01	s	CARBON 100K 1/6W
R223	9-997-708-01	s	CARBON 33K 1/6W
R224	9-903-727-01	s	CARBON 4.7K 1/6W
R225	9-903-726-01	s	CARBON 2.7K 1/6W
R226	9-997-702-01	s	CARBON 100K 1/6W
R227	9-997-706-01	s	CARBON 330 1/6W
R228	9-997-713-01	s	CARBON 680 1/6W
R229	9-997-700-01	s	CARBON 1K 1/6W
R230	9-997-700-01	s	CARBON 1K 1/6W
R231	9-997-700-01	s	CARBON 1K 1/6W
R232	9-997-700-01	s	CARBON 1K 1/6W
R233	9-903-727-01	s	CARBON 4.7K 1/6W
SR201	8-719-000-28	s	THYRISTOR CR02AM-4
T101 ⚠	9-903-739-01	s	TRANSFORMER, CONVERTER
T102 ⚠	9-903-741-01	s	TRANSFORMER, DRIVE
T103 ⚠	9-903-741-01	s	TRANSFORMER, DRIVE
T104 ⚠	9-903-740-01	s	TRANSFORMER, CONVERTER
TR101	9-997-766-01	s	TRIAC 8A 600V
VR201	9-903-742-01	s	RES, ADJ, METAL 2K
VR202	9-903-742-01	s	RES, ADJ, METAL 2K

FRAME

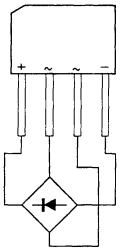
Ref. No. or Q'ty	Part No.	SP	Description
1pc	9-903-769-01	o	WIRE, GROUND
CN301 ⚠	1-580-375-21	o	INLET, AC 3P "AC IN"
CN302	1-509-185-31	s	CONNECTOR, 4P FEMALE "DC OUT"
CN303	1-562-245-11	o	CONNECTOR, 26P FEMALE "CAMERA OUT"
CN304	1-561-781-91	s	CONNECTOR, BNC (RECEPTACLE)
CN305	1-563-030-21	s	CONNECTOR, 3P MALE "MIC OUT"
CN306	1-561-781-91	s	CONNECTOR, BNC (RECEPTACLE)
D211	8-719-800-58	s	LED TLG147 ; GREEN
HN001	9-903-763-01	o	HARNESS, CN1
HN002	9-903-764-01	o	HARNESS, CN2
HN003	9-903-760-01	o	HARNESS, CN3
HN004	9-903-765-01	o	HARNESS, CN4
HN005	9-885-008-02	o	HARNESS, CN5
S101 ⚠	1-570-117-11	s	SWITCH, POWER "POWER ON/OFF"
S102 ⚠	1-570-173-21	s	SWITCH, VOLTAGE SELECTOR

SUPPLIED ACCESSORIES

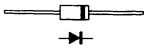
Ref. No. or Q'ty	Part No.	SP	Description
1pc ⚠	1-782-929-11	s	CORD, POWER (BS 3P)

Section 4
Semiconductor Pin Assignments

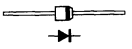
DIODE



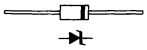
D5SB60



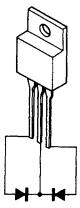
ERA38
ERB91
ERC38
ERC91
UF4007G23



ERA91

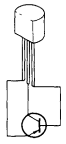


RD18ESB1
RD20ESB2
RD6.2ESB2
RD7.5ESB2

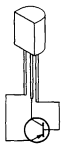


YG902C2

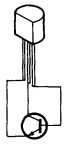
TRANSISTOR



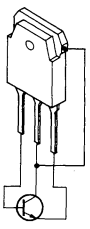
2SA1015



2SA1020
2SB740



2SC1815



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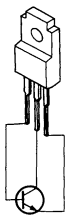

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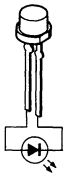
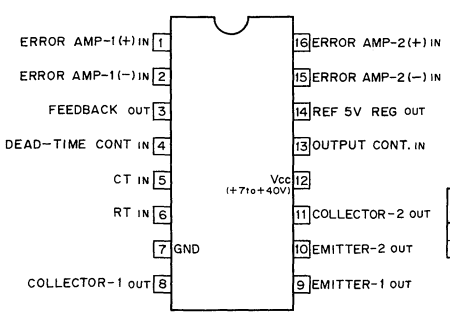
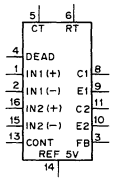


TLG147 ; GREEN

IC

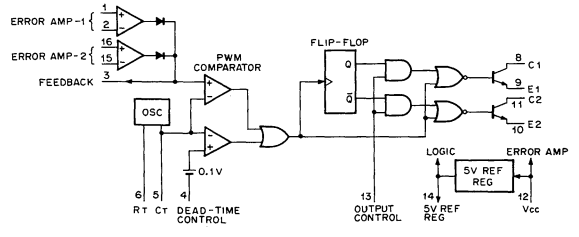
MB3759 (FUJITSU)
PWM POWER CONTROL
– TOP VIEW –





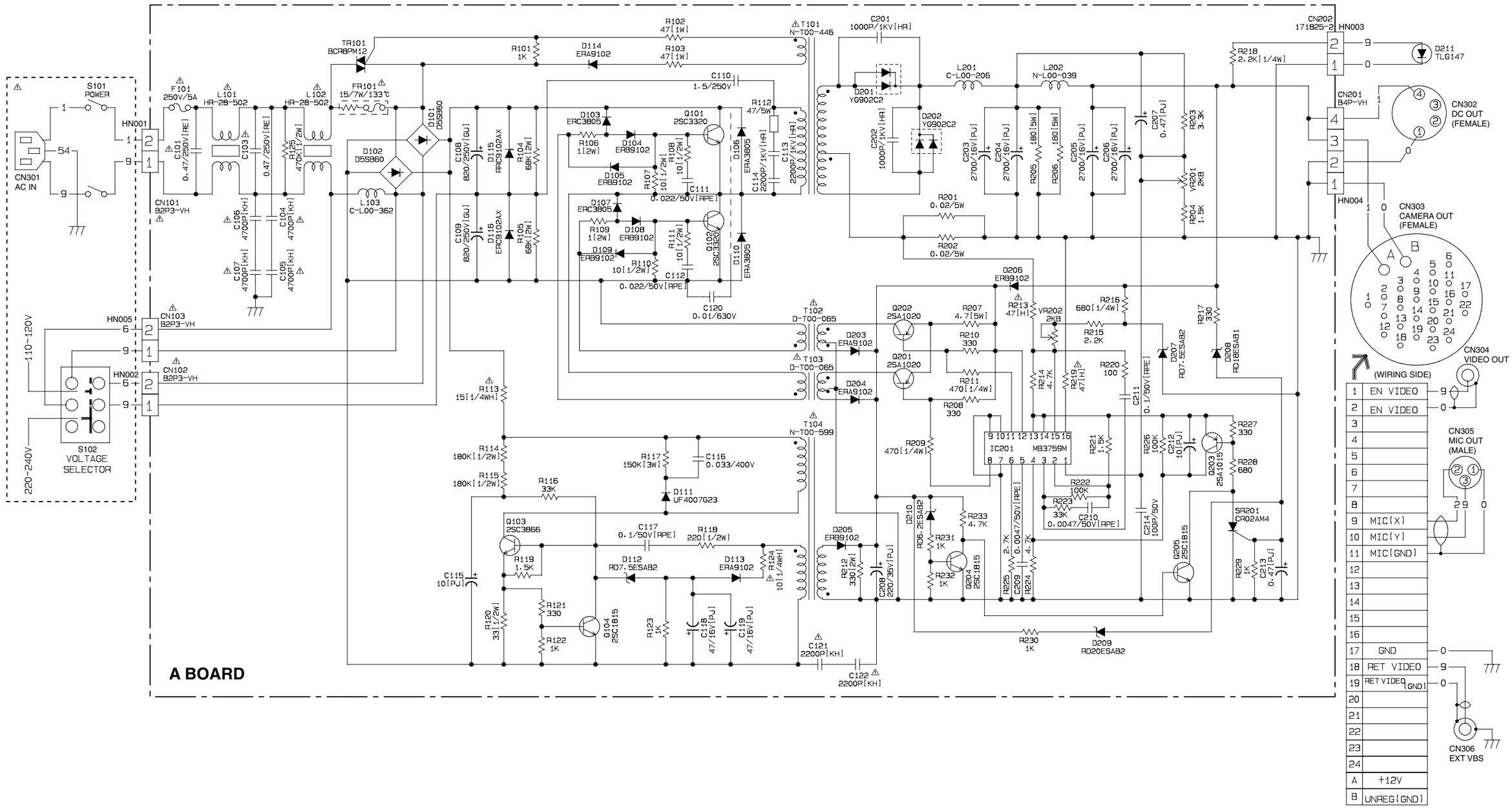
OUTPUT CONTROL	OUTPUT FUNCTION
0	PARALLEL
1	PUSH-PULL

0 ; GROUNDED
1 ; CONNECTED TO PIN14



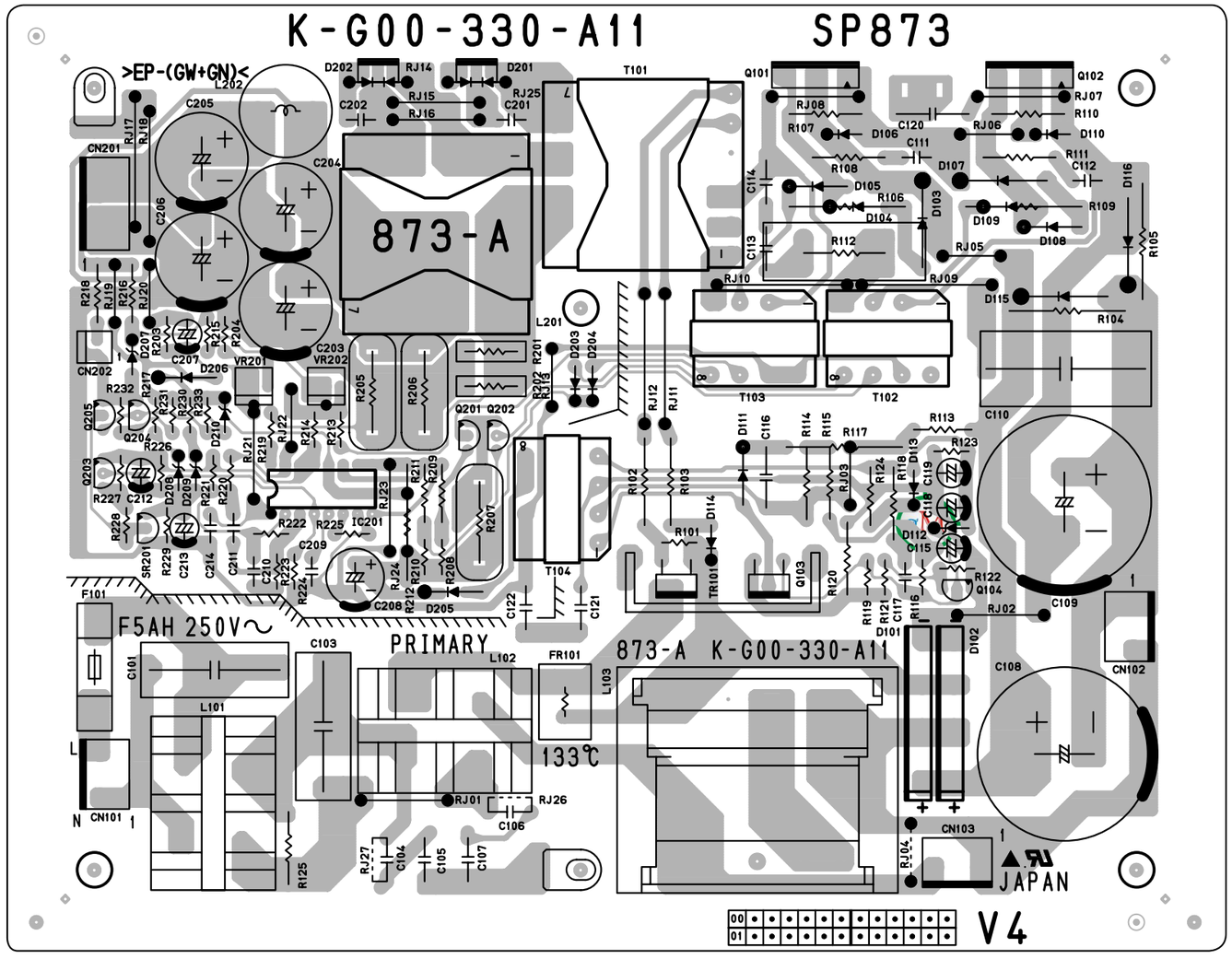
Section 5
Diagram and Board Layout

5-1. Frame Wiring



Frame Wiring
A Board
AC-550CE
B-¥AC550-FRAME

5-2. Board Layout



A Board
-COMPONENT SIDE-

AC-550CE (CE) E
9-968-579-01

Sony Corporation
Communication System Solutions Network Company

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